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EXAMINER

MORRISON, THOMAS A

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/565,031	Applicant(s) REINHARD ET AL.	
	Examiner THOMAS A. MORRISON	Art Unit 3653	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 May 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 54-107 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 54-107 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 54-55, 58-63, 65-66, 71, 77-78, 80-81, 85, 87-88, 90, 92-94, 96 and 100-107 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 2004/0026851 (Schaeede et al.) (hereinafter "Schaeede") in view of U.S. Patent No. 6,104,890 (Kim) (hereinafter "Kim").

Regarding claim 54, Figs. 1, 7 and 10 of Schaeede show sheet-processing machine for processing sheets each comprising a plurality of copies, the sheet-processing machine comprising a plurality of modules (including 120, 121-127, 128 and 129) through which the sheets are transported one after the other along a sheet conveying direction (from right to left), the plurality of modules (including 120, 121-127, 128 and 129) including a sheet feeder module (120) for feeding the sheets and one or more downstream sheet-processing modules including at least an inspection module (Figs. 1, 7 and 10) for monitoring the print quality of the sheets,

wherein the inspection module (Figs. 1, 7 and 10) comprises two transport cylinders (i.e., the two small cylinders shown in Figs. 1 and 10) for transporting the sheets for inspection of front and rear sides of the sheets by inspection devices (including 12 and 13 in Fig. 1),

wherein the inspection module (Figs. 1, 7 and 10) comprises a third transport cylinder (element 123 in Fig. 10 or element 8 shown in Fig. 1, which is provided in the form of a drum with openings therein, as best shown in Fig. 7) having a transparent casing (i.e., casing openings 84 allow light to be transmitted so that objects or images beyond can be clearly perceived) and an additional inspection device (including 10 and 11 in Fig. 1) for inspecting light-transmitting capacity of the sheets, and

wherein the additional inspection device (including 10 and 11 in Fig. 1) comprises an image sensor (10) and a light source (11) for inspection by transmission, the light source (11) being arranged within the transparent casing of the third transport cylinder.

To further clarify, the examiner relies upon Figs. 1 and 10 to show the details of a conveying device with an inspection module. The examiner relies upon Fig. 1 to show the details of the inspection devices (12 and 13) and the additional inspection device (including 10 and 11). Also, an inspection module is shown installed in a sheet-processing machine in Fig. 10. Finally, the disclosure for Fig. 7 in numbered paragraph [0081] – [0084] explains that a conveying device with an inspection module can be used that includes a conveying cylinder with a **cylinder body having openings 84 therein to allow accessibility into the inspection device inside such conveying cylinder.**

The examiner considers this cylindrical body with openings therein to be a third transport cylinder having a transparent casing, as claimed. While the Schaede patent discloses an inspection module comprising a third transport cylinder with a “transparent casing”, Schaede does not disclose that such transparent casing is a solid transparent casing, as claimed.

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The Kim patent discloses that it is well known in the art to place an optical inspection device (200) inside a cylinder (103) that has a casing (including 21) with a solid transparent window (22), to allow the inspection device (200) to send an optical signal out through the solid transparent window (22) and receive a reflected light signal back through the solid transparent window (22) for inspection purposes. Moreover, column 4, lines 56-64 and column 12, lines 40-47 of Kim explain that such casing arrangement with the solid transparent window (22) shields the inspection device (200) inside the cylinder (103) from dust and contamination. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the third transport cylinder of Schaede (element 123 in Fig. 10 or element 8 shown in Fig. 1, which is provided in the form of a drum with openings therein, as best shown in Fig. 7) with a casing that includes solid transparent windows for the purpose of ensuring that inspection devices inside such third cylinder of Schaede are shielded from dust and contamination, as taught by Kim. Thus, all of the limitations of claim 54 are met by the cited combination of references.

Regarding claim 55, Fig. 1 of Schaede shows that the inspection devices (including 12 and 13 in Fig. 1) comprise an image sensor (12) and a light source (13) for inspection by reflection.

Regarding claim 58, Fig. 1 of Schaede shows that the inspection module comprises an even number (i.e., 4) of transport cylinders for transporting the sheets from a sheet input interface to a sheet output interface of the inspection module.

Regarding claim 59, Fig. 10 of Schaede shows that the sheet feeder module (120) and inspection module (Fig. 10) each have their own respective side frame panels. For example, Fig. 2 of Schaede shows side frame panels for the inspection module.

Regarding claim 60, Figs. 1, 2 and 10 of Schaede show that the sheet feeder module (120) and inspection module (Figs. 1 and 10) each have at least one transport cylinder which is fixed to the side frame panels.

Regarding claim 61, Fig. 10 of Schaede shows that the side frame panels of the sheet feeder (120) module and inspection module (Figs. 1 and 10) are fixed to one another.

Regarding claim 62, numbered paragraph [0031] of Schaede discloses that a numbering module for applying serial numbering to the sheets is provided downstream of the inspection module (Figs. 1, 7 and 10) with respect to the sheet conveying direction.

Regarding claim 63, in Schaede the sheet feeder module (120), inspection module (Figs. 1 and 10) and numbering module (numbered paragraph [0031]) each have their own respective side frame panels.

Regarding claim 65, in Schaede numbered paragraphs [0031] and [0032] disclose that the numbering module is arranged behind the inspection module (Figs. 1 and 10) with respect to the sheet conveying direction, so as to apply the numbering only to those sheets which have passed the quality check carried out by the inspection module.

Regarding claim 66, in Schaede numbered paragraph [0031] discloses that the numbering module comprises at least one numbering unit for printing a serial number on the sheets to be processed.

Regarding claim 71, in Schaede numbered paragraphs [0031] and [0032] disclose that an inking unit module is provided which, in conjunction with the numbering module, forms a printing module.

Regarding claim 77, Figs. 1 and 10 of Schaede show a marking module (129) for marking a sheet as usable or unusable depending on a monitoring result of the inspection module (Figs. 1 and 10) is provided downstream of the inspection module (Figs. 1 and 10) with respect to the sheet conveying direction.

Regarding claim 78, Figs. 1 and 10 of Schaede show that the sheet feeder module (120), inspection module (Figs. 1 and 10) and marking module (129) each have their own respective side frame panels.

Regarding claim 80, as best understood, Schaede shows a marking device (129) for applying a marking to the sheets is arranged in the marking module.

Regarding claim 81, in Schaede numbered paragraph [0102] discloses that an inking unit module is provided which, in conjunction with the marking module (129), forms a printing module.

Regarding claim 85, as best understood, Schaede shows the inking unit module (numbered paragraph [0102]) is removably installed (i.e., capable of being removed) on the marking module (129).

Regarding claim 87, Fig. 10 of Schaede shows a marking device (129) for applying a marking to the sheets.

Regarding claim 88, as best understood, in Schaede the marking device (129) marks an edge region of a column and/or row in which a fault detected by the inspection module (Figs. 1 and 10) is located.

Regarding claim 90, in Schaede the marking device (129) is arranged to apply the marking as unusable selectively to individual copies or in relation to individual copies on a sheet.

Regarding claim 92, in Schaede numbered paragraph [0102] discloses that the marking device (129) is an inkjet printing unit.

Regarding claim 93, Fig. 10 of Schaede shows that a transport module (including 121) is further provided, which transport module (including 121) is interposed between the sheet feeder module (120) and the inspection module (Figs. 1 and 10).

Regarding claim 94, Fig. 10 of Schaede shows that an inking unit module (129) is provided which, in conjunction with the transport module (including 121), forms a printing module.

Regarding claim 96, Fig. 10 of Schaede shows that a form cylinder (121) is provided in the transport module (including 121) for cooperation with the inking unit module to form the printing module. Regarding the recitation “for cooperation with the inking unit module to form the printing module”, this recitation does not distinguish claim 96 from the prior art apparatus of Schaede in view of Kim, particularly in view of MPEP 2114.

Regarding claim 100, Fig. 10 of Schaede shows that columns (unnumbered feet in Fig. 10) are provided for supporting the sheet feeder module (120), the transport module (including 121) and the inspection module (Figs. 1 and 10).

Regarding claim 101, Fig. 10 of Schaede shows that an expansion module (128) is further provided, which expansion module (128) is interposed between the inspection module (Figs. 1 and 10) and the marking module (129).

Regarding claim 102, Fig. 10 of Schaede shows that columns (unnumbered feet in Fig. 10) are provided for supporting the sheet feeder module (120), the inspection module (Figs. 1 and 10) and the expansion module (128).

Regarding claim 103, Fig. 10 of Schaede shows that columns are provided for supporting the sheet feeder module (unnumbered feet on element 120) and the inspection module (unnumbered feet below element 122).

Regarding claim 104, Fig. 10 of Schaede shows that an output transport cylinder at a sheet output interface of the inspection module (Figs. 1 and 10) and an output transport cylinder at a sheet output interface of the sheet feeder module (120) are arranged at a same height. See, e.g., cylinder 121 and unnumbered cylinder at the same height in Fig. 10.

Regarding claim 105, Fig. 10 of Schaede shows that transfer of a sheet from an upstream module to a downstream module is effected by means of an output transport cylinder located at a sheet output interface of the upstream module which transfers the sheet to an input transport cylinder located at a sheet input interface of the downstream

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module. See, e.g., unnumbered cylinders on element 128 and unnumbered cylinder below reference numeral 127. Alternatively, see cylinders 121 and 122.

Regarding claim 106, Fig. 10 of Schaede shows that the output transport cylinder (121) of the upstream module and the input transport cylinder (122) of the downstream module have opposite directions of rotation.

Regarding claim 107, Fig. 10 of Schaede shows that a circumference of the input and output transport cylinders are of a same size. See, e.g., unnumbered cylinders on element 128 and unnumbered cylinder below reference numeral 127.

2. Claim 56 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schaede in view of Kim as applied to claim 54 above, and further in view of U.S. Patent No. 6,166,366 (Lewis et al.). Schaede discloses inspection devices (including 12 and 13) that include a light source (13) and a light sensor (12), but Schaede does not explicitly disclose that such light source and light sensor include a UV light source and a light sensor, as claimed

Lewis et al. discloses that it is well known to provide a printing apparatus with a UV light source and light sensor that detects such light source, for the purpose of detecting defects in printed materials conveyed in the printer apparatus. See, e.g., col. 14, line 55 - col. 15, line 10, abstract, and Figs. 1-18. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the transport cylinder of the apparatus of Schaede in view of Kim with a UV light source and a UV light sensor for the purpose of detecting defects in materials conveyed on the

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printing apparatus of Schaede in view of Kim, as taught by Lewis et al. Thus, all of the limitations of claim 56 are met by this combination of references.

3. Claim 57 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schaede in view of Kim as applied to claim 54 above, and further in view of U.S. Patent No. 4,299,325 (Quinton et al.). Schaede discloses that it is well known to use inspection devices (including 12 and 13) for detecting defects in printed materials, but Schaede does not explicitly disclose that such inspection devices include a magnetic field sensor, as claimed

Quinton et al. discloses that it is well known to provide a sheet handling apparatus with a magnetic field sensor for the purpose of detecting defects in printed materials. See, e.g., Fig. 1 and col. 2, lines 31-36 of Quinton et al. Because Schaede and Quinton et al. both teach sensors for detecting defects in printed materials, it would have been obvious to one skilled in the art to substitute the detecting device (2) of Quinton et al. for the detecting devices (including 12 and 13) of Schaede to achieve the predictable result of detecting defects in printed materials. Thus, all of the limitations of claim 57 are met.

4. Claims 62-76 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schaede in view of Kim as applied to claim 54 above, and further in view of Canadian Publication No. 2407810 (cited in the previous Office Action).

Regarding claim 62, Schaede discloses that it is well known to provide a printing machine (128) downstream of an inspection module (Figs. 1 and 10) with respect to the

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sheet conveying direction, but Schaede does not explicitly disclose that such printing machine (128) includes a numbering module, as claimed.

Canadian Publication No. 2407810 discloses that it is well known in the art to provide a printing machine (including 24) with a numbering module (including 12-14) for the purpose of applying serial numbering to the sheets. See, e.g., English abstract of Canadian Publication No. 2407810. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the printing machine (128) of Schaede in view of Kim with a numbering module for the purpose of applying serial numbering to sheets, as taught by Canadian Publication No. 2407810.

Regarding claim 63, the sheet feeder module (120) of Schaede, inspection module (Figs. 1 and 10) of Schaede and printing machine (128) of Schaede each have their own respective side frame panels. By providing the numbering module on the printing machine (128), in a manner as taught by Figs. 1-3 of Canadian Publication No. 2407810, the sheet feeder module (120), inspection module (Figs. 1 and 10) and numbering module of Schaede will each have their own respective side frame panels.

Regarding claim 64, Fig. 3 of Canadian Publication No. 2407810 shows that it is well known to provide the numbering module (including 12-14) with a cut-out, for engagement and support of side frame panels of an inspection module (including 7). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the numbering module of Schaede in view of Kim and Canadian Publication No. 2407810 with a cut out for engagement and support of the inspection module (Figs. 1 and 10) of Schaede, as shown in Canadian Publication No. 2407810.

Regarding claim 65, Fig. 1 of Canadian Publication No. 2407810 shows that the numbering module (including 12-14) is arranged behind an inspection module (including 7) with respect to a sheet conveying direction, so as to apply the numbering only to those sheets which have passed the quality check carried out by the inspection module. Providing this same numbering module arrangement (including 12-14) of Canadian Publication No. 2407810 next to the inspection module (Figs. 1 and 10) of Schaede, in a manner as shown in Fig. 1 of Canadian Publication No. 2407810, will result in the same numbering module arrangement as set forth in claim 65.

Regarding claim 66, Fig. 1 of Canadian Publication No. 2407810 shows that the numbering module (including 12-14) comprises at least one numbering unit (13) for printing a serial number on the sheets to be processed. See also page 9 of the specification of Canadian Publication No. 2407810.

Regarding claim 67, Fig. 1 of Canadian Publication No. 2407810 shows that the numbering module (including 12-14) comprises two numbering units (13 and 14) which are arranged on a counter-pressure cylinder (12) with two printing segments. This same numbering module arrangement taught in Fig. 1 of Canadian Publication No. 2407810 would be applied to the printing machine (128) of Schaede in view of Kim.

Regarding claim 68, Fig. 1 of Canadian Publication No. 2407810 shows that a marking device (12 or 15) for applying a marking to the sheets is arranged in the numbering module (including 12-14).

Regarding claim 69, Fig. 1 of Canadian Publication No. 2407810 shows that the marking device (15) is arranged upstream of a numbering unit (13 or 14) of the

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numbering module (including 12-14). This same numbering module arrangement would be applied to the printing machine (128) of Schaede as modified by Kim.

Regarding claim 70, Fig. 1 of Canadian Publication No. 2407810 shows that the marking device (12) is arranged on a counter-pressure cylinder of the numbering module (including 12-14). This same numbering module arrangement would be applied to the printing machine (128) of Schaede as modified by Kim.

Regarding claim 71, Fig. 1 of Canadian Publication No. 2407810 shows that an inking unit module (15) is provided which, in conjunction with the numbering module (including 12-14), forms a printing module.

Regarding claim 72, Fig. 1 of Canadian Publication No. 2407810 shows that inking unit rollers of the inking unit module (15) are mounted in side frame panels which are connected to side frame panels of the numbering module (including 12-14). This same inking unit module and numbering module arrangement would be applied to the printing machine (128) of Schaede as modified by Kim.

Regarding claim 73, Fig. 1 of Canadian Publication No. 2407810 shows that a form cylinder (12) is provided in the numbering module (including 12-14) for cooperation with the inking unit module (15) to form the printing module. This same numbering module arrangement and inking unit module arrangement would be applied to the printing machine (128) of Schaede as modified by Kim.

Regarding claim 74, Fig. 1 of Canadian Publication No. 2407810 shows that the printing module uses an output transport cylinder of an inspection module (including 7) upstream of the numbering module (including 12-14) as counter-pressure cylinder for

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the form cylinder (12). This same arrangement would be applied to the printing machine (128) of Schaede as modified by Kim.

Regarding claim 75, as best understood, the inking unit module (15) of Canadian Publication No. 2407810 is removable installed (i.e., capable of being removed) on the numbering module (including 12-14) of Canadian Publication No. 2407810. This same arrangement would be applied to the printing machine (128) of Schaede as modified by Kim.

Regarding claim 76, Fig. 1 of Canadian Publication No. 2407810 shows that the form cylinder (12) is smaller than the cylinders of the inspection module (including 7), but does not explicitly show that the form cylinder (12) is of a same size as the output transport cylinder acting as counter-pressure cylinder. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the size of the form cylinder (12) the same size as the output transport cylinder acting as the counter-pressure cylinder, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. One of ordinary skill in the art would have been motivated to make these two parts the same size, e.g., to simplify the manufacturing process by limiting the number of different sized parts.

5. Claims 77-86 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schaede in view of Kim as applied to claim 54 above, and further in view of Canadian Publication No. 2407810.

Regarding claim 77, Fig. 10 of Schaede discloses that it is well known to provide a printing machine (128) downstream of an inspection module (Figs. 1 and 10) with respect to the sheet conveying direction, but Schaede does not explicitly disclose that such printing machine (128) includes a marking module, as claimed.

Canadian Publication No. 2407810 discloses that it is well known in the art to provide a printing machine (including 24) with a marking module (including 12-14) for the purpose of applying serial numbering to sheets. See, e.g., English abstract of Canadian Publication No. 2407810. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the printing machine (128) of Schaede as modified by Kim with a marking module for the purpose of applying serial numbering to sheets, as taught by Canadian Publication No. 2407810. Page 9, lines 16-26 of the specification of Canadian Publication No. 2407810 disclose that the marking module (including 12-14) is used for marking a sheet as usable or unusable depending on a monitoring result of an inspection module (including 7) of Canadian Publication No. 2407810. This same arrangement taught by Canadian Publication No. 2407810 would be applied to the apparatus of Schaede in view of Kim on the printing machine (128) that is downstream of the inspection module (Figs. 1 and 10) of Schaede in view of Kim with respect to the sheet conveying direction.

Regarding claim 78, Fig. 1 of Canadian Publication No. 2407810 shows that a sheet feeder module (1), inspection module (including 7) and marking module (including 12-14) each have their own respective side frame panels. This same arrangement

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taught by Canadian Publication No. 2407810 would be applied to the apparatus of Schaede as modified by Kim.

Regarding claim 79, Figs. 1-3 of Canadian Publication No. 2407810 show that the marking module (including 12-14) has a cut-out for engagement and support of the side frame panels of an inspection module (including 7). This same arrangement taught by Canadian Publication No. 2407810 would be applied to the apparatus of Schaede as modified by Kim.

Regarding claim 80, Fig. 1 of Canadian Publication No. 2407810 shows that a marking device (13 or 14) for applying a marking to the sheets is arranged in the marking module (including 12-14).

Regarding claim 81, Fig. 1 of Canadian Publication No. 2407810 shows that an inking unit module (15) is provided which, in conjunction with the marking module (including 12-14), forms a printing module.

Regarding claim 82, Fig. 1 of Canadian Publication No. 2407810 shows that inking unit rollers of the inking unit module (15) are mounted in side frame panels which are connected to side frame panels of the marking module (including 12-14).

Regarding claim 83, Fig. 1 of Canadian Publication No. 2407810 shows that a form cylinder (12) is provided in the marking module (including 12-14) for cooperation with the inking unit module (15) to form the printing module.

Regarding claim 84, Fig. 1 of Canadian Publication No. 2407810 shows that the printing module uses an output transport cylinder of the inspection module (including 7) upstream of the marking module (including 12-14) as counter-pressure cylinder for the

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form cylinder (12). This same arrangement taught by Canadian Publication No. 2407810 would be applied to the apparatus of Schaede as modified by Kim.

Regarding claim 85, the inking unit module (15) is removably installed (i.e., capable of being removed) on the marking module (including 12-14).

Regarding claim 86, Fig. 1 of Canadian Publication No. 2407810 shows that the form cylinder (12) is smaller than the cylinders of the inspection module (including 7), but does not explicitly show that the form cylinder (12) is of a same size as the output transport cylinder acting as counter-pressure cylinder. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the size of the form cylinder (12) the same size as the output transport cylinder acting as the counter-pressure cylinder, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. One of ordinary skill in the art would have been motivated to make these two parts the same size, e.g., to simplify the manufacturing process by limiting the number of different sized parts.

6. Claims 87-92 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schaede in view of Kim as applied to claim 54 above, and further in view of Canadian Publication No. 2407810.

Regarding claim 87, Fig. 10 of Schaede discloses that it is well known to provide a printing machine (128), but Schaede does not explicitly disclose that such printing machine (128) includes a marking device for applying a marking to the sheets, as claimed.

Canadian Publication No. 2407810 discloses that it is well known in the art to provide a printing machine (including 24) with a marking device (including 12-14) for the purpose of applying serial numbering to sheets. See, e.g., English abstract of Canadian Publication No. 2407810. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the printing machine (128) of Schaede with a marking device for the purpose of applying serial numbering to sheets, as taught by Canadian Publication No. 2407810. This same arrangement taught by Canadian Publication No. 2407810 would be applied to the apparatus of Schaede on the printing machine (128) of Schaede as modified by Kim.

Regarding claim 88, Canadian Publication No. 2407810 discloses that the marking device (including 12-14) marks an edge region of a column and/or row in which a fault detected by an inspection module (including 7) of Canadian Publication No. 2407810 is located. See, e.g., page 9, lines 16-26 of Canadian Publication No. 2407810.

Regarding claim 89, Canadian Publication No. 2407810 discloses that the marking device (including 12-14) marks a column and outputs a row number in which a fault detected by the inspection module is located. See, e.g., page 9, lines 16-26 of Canadian Publication No. 2407810.

Regarding claim 90, Canadian Publication No. 2407810 discloses that the marking device (including 12-14) is arranged to apply the marking as unusable selectively to individual copies or in relation to individual copies on a sheet. See, e.g., page 9, lines 16-26 of Canadian Publication No. 2407810.

Regarding claim 91, as best understood, Figs. 1-3 of Canadian Publication No. 2407810 disclose that the marking device (including 12-14) comprises a plurality of print heads (13 and 14) which are distributed uniformly transversely to the sheet conveying direction.

Regarding claim 92, page 9, lines 4-8 of Canadian Publication No. 2407810 disclose that the marking device (including 12-14) is an inkjet printing unit.

7. Claims 94-99 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schaede in view of Kim as applied to claim 93 above, and further in view of Canadian Publication No. 2407810.

Regarding claim 94, Fig. 10 of Schaede discloses that it is well known to provide a printing machine (128), but Schaede does not explicitly disclose that such printing machine (128) includes a an inking unit module, as claimed.

Canadian Publication No. 2407810 discloses that it is well known in the art to provide a printing machine (including 24) with an inking unit module (including 12-14) for the purpose of applying serial numbering to sheets. See, e.g., English abstract of Canadian Publication No. 2407810. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the printing machine (128) of Schaede as modified by Kim with an inking unit module for the purpose of applying serial numbering to sheets, as taught by Canadian Publication No. 2407810. This same arrangement taught by Canadian Publication No. 2407810 would be applied to the apparatus of Schaede in view of Kim on the printing machine (128) of Schaede as modified by Kim. Providing the printer (128) of Schaede in view of Kim with an inking

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unit module in a manner as taught by Fig. 1 of Canadian Publication No. 2407810, results in such inking unit module being provided which, in conjunction with the transport module (including 121) of Schaede, forms a printing module.

Regarding claim 95, Figs. 1-3 of Canadian Publication No. 2407810 disclose that inking unit rollers (13 and 14) of the inking unit module (including 12-14) are mounted in side frame panels which are connected to side frame panels of a transport module (including 3) of Canadian Publication No. 2407810. This same inking unit module arrangement taught by Fig. 1 of Canadian Publication No. 2407810 would be applied to the printing machine (128) and transport module (including 121) of Schaede as modified by Kim.

Regarding claim 96, Fig. 1 of Canadian Publication No. 2407810 shows that a form cylinder (3) is provided in the transport module (including 3) of Canadian Publication No. 2407810 for cooperation with the inking unit module (including 12-14) to form the printing module. This same arrangement of the form cylinder and inking unit module that is taught by Fig. 1 of Canadian Publication No. 2407810 would be applied to the transport module (including 121) and printing machine (128), respectively, of Schaede as modified by Kim.

Regarding claim 97, Fig. 1 of Canadian Publication No. 2407810 shows that the printing module uses an output transport cylinder (2) of a sheet feeder module (1) upstream of a transport module (including 3) as counter-pressure cylinder for the form cylinder (3). This same arrangement of the output transport cylinder as counter-

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pressure cylinder for a form cylinder that is taught by Fig. 1 of Canadian Publication No. 2407810 would be applied to the form cylinder (121) of Schaede as modified by Kim.

Regarding claim 98, as best understood, the inking unit module (including 12-14) of Canadian Publication No. 2407810 is removable installed (capable of being removed) on the transport module (including 3) of Canadian Publication No. 2407810. This same removable inking unit module taught in Canadian Publication No. 2407810 would be applied to the apparatus of Schaede as modified by Kim.

Regarding claim 99, Fig. 1 of Canadian Publication No. 2407810 shows that the form cylinder (3) is small, like the counter-pressure cylinder (2), but Canadian Publication No. 2407810 does not explicitly disclose that the form cylinder (3) is of a same size as the output transport cylinder (2) acting as counter-pressure cylinder, as claimed. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the size of the form cylinder (3) the same size as the output transport cylinder (2) acting as the counter-pressure cylinder, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. One of ordinary skill in the art would have been motivated to make these two parts the same size, e.g., to simplify the manufacturing process by limiting the number of different sized parts. This same dimensional relationship between the form cylinder and counter-pressure cylinder taught by Canadian Publication No. 2407810 would be applied to the form cylinder (121) and associated counter-pressure cylinder of Schaede as modified by Kim.

Response to Arguments

8. Applicant's arguments with respect to claims 54-107 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to THOMAS A. MORRISON whose telephone number is (571)272-7221. The examiner can normally be reached on M-F, 8am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stefanos Karmis can be reached on (571) 272-6744. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

8/12/2010

/Stefano Karmis/
Supervisory Patent Examiner, Art Unit 3653